

Dates to remember:

**MARK YOUR CALENDAR**

**PUBLIC COMMENT PERIOD:**

**Date, year**

The U.S. EPA will accept written comments on the Source Control Proposed Plan during the public comment period.

**PUBLIC MEETING:**

**Date, year**

U.S. EPA will hold a public meeting to explain the Source Control Proposed Plan and all of the alternatives. Oral and written comments will also be accepted at the meeting. The meeting will be held at Bristow Public Library, 111 West 7<sup>th</sup> Avenue from 6:00 - 7:00 p.m.

For more information, see the Administrative Record at the following locations:

Bristow Public Library

111 West 7<sup>th</sup> Avenue

Hours:

Monday - Thursday 9:00 a.m. to 6:00 p.m.

Closed: Friday and Saturday

Oklahoma Department of Environmental Quality

Central Records

707 N. Robinson – 2<sup>nd</sup> Floor

Oklahoma City, Oklahoma 73102

(405) 702-1188

E-mail: [centralrecords@deq.ok.gov](mailto:centralrecords@deq.ok.gov)

Monday through Friday 8:00a.m. to 4:30 p.m.

U.S. EPA Records Center, Region 6

1445 Ross Avenue

Dallas, TX 75202

(214)-665-2792 or 1-800-533-3508 (Toll Free)

Hours: Monday through Friday,

7:30 a.m. to 4:30 p.m.

**WHAT IS A "PRINCIPAL THREAT"?**

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The “principal threat” concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to ground water, surface water or air, or acts as a source for direct exposure. Contaminated ground water generally is not considered to be

a source material; however, Non-Aqueous Phase Liquids (NAPLs) in ground water may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

### **WHAT IS RISK AND HOW IS IT CALCULATED?**

A Superfund human health risk assessment estimates the "baseline risk." This is an estimate of the likelihood of health problems occurring if no cleanup action were taken at a site. To estimate the baseline risk at a Superfund site, EPA undertakes a four-step process:

Step 1: Analyze Contamination

Step 2: Estimate Exposure

Step 3: Assess Potential Health Dangers

Step 4: Characterize Site Risk

In Step 1, EPA looks at the concentrations of contaminants found at a site as well as past scientific studies on the effects these contaminants have had on people (or animals, when human studies are unavailable). Comparisons between site-specific concentrations and concentrations reported in past studies help EPA to determine which contaminants are most likely to pose the greatest threat to human health.

In Step 2, EPA considers the different ways people might be exposed to the contaminants identified in Step 1, the concentrations people might be exposed to, and the potential frequency and duration of exposure. Using this information, EPA calculates a "reasonable maximum exposure" (RME) scenario, which portrays the highest level of human exposure that could reasonably be expected to occur.

In Step 3, EPA uses the information from Step 2 combined with information on the toxicity of each chemical to assess potential health risks. EPA considers two types of risk: cancer risk and non-cancer risk. The likelihood of any kind of cancer resulting from a Superfund site is generally expressed as an upper bound probability; for example, a "1 in 10,000 chance." In other words, for every 10,000 people that could be exposed, one extra cancer may occur as a result of exposure to site contaminants. An extra cancer case means that one more person could get cancer than would normally be expected to from all other causes. For non-cancer health effects, EPA calculates a "hazard index." The key concept here is that a "threshold level" (measured usually as a hazard index of less than 1) exists below which non-cancer health effects are no longer predicted.

In Step 4, EPA determines whether site risks are great enough to cause health problems for people at or near the Superfund site. The results of the three previous steps are combined, evaluated and summarized. EPA adds up the potential risks from the individual contaminants and exposure pathways and calculates a total site risk.

## **WHAT ARE THE CONTAMINANTS OF CONCERN?**

**Lead:** Lead is a naturally occurring metal. Its most important use is in the production of lead batteries, but is also used in ammunition, sheet lead, solder, brass pipes, and ceramic glazes. Most of the lead released to the environment was the result of car exhaust from the burning of leaded gasoline which has since been phased out. Lead-based paint is also a source of environmental lead. It has been phased out of production; however, many older homes remain covered with lead-based paint that may be weathering and chipping. Children are most sensitive and vulnerable to the effects of lead. Exposure to large quantities of lead can result in blood anemia, kidney damage, colic, muscle weakness, brain damage, slowed mental and physical growth, prematurely born babies, and slow mental development.

**Benzo(a)pyrene:** Benzo(a)pyrene is present in the tank waste, and is one of a group of over 100 different chemicals known as Polycyclic Aromatic Hydrocarbons (PAHs). PAHs are formed during the incomplete burning of coal, oil, and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are also found in coal tar, crude oil, creosote, and roofing tar. Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure; however, these effects have not been seen in people. PAHs are probable human carcinogens.

Source Control Remedial Action Objectives
RAO No. 1 - Prevent ingestion and dermal contact exposure to human and ecological receptors through the removal of tank waste to a target health-based concentration of 0.11 mg/kg benzo(a)pyrene and the removal of the lead additive area to a target health-based concentration range of 400 mg/kg lead.
RAO No. 2 - Prevent further migration of soils, sediment, and indoor air through the removal of tank waste to a target health-based concentration of 0.11 mg/kg benzo(a)pyrene and the removal of the lead additive area to a target health-based concentration range of 400 mg/kg lead.

<b>Summary of Source Control Remedial Alternatives</b>	
<b>Alternative Designation</b>	<b>Description</b>
1	No action
2	Excavation and Offsite Disposal
3	Excavation, Consolidation, and Capping

<b>EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES</b>
Overall Protectiveness of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.
Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.
Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

## **COMMUNITY PARTICIPATION**

For further information on the Wilcox Oil Company Site, please contact:

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